

TWO NEW SPECIES OF DASYSYRPHUS (DIPTERA, SYRPHIDAE) FROM CHINA, WITH A KEY TO SPECIES FROM CHINA

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Abstract In this paper two new species of the genus *Dasyrphus* are described, namely *Dasyrphus angustantennus* sp. nov. and *Dasyrphus taibaiensis* sp. nov. Type specimens are deposited in Bio resources Key Laboratory of Shaanxi Province, Shaanxi University of Technology, Hanzhong, Shaanxi Province, China. A key to Chinese species is provided.

Key words Syrphidae, *Dasyrphus*, new species, Qinling Mountains.

Up to date, about 40 species of the genus *Dasyrphus* Enderlein have been described worldwide. Sack (1934) recorded *Syrphus albostratus* (= *Dasyrphus albostratus* (Fallén)) from Northwest of China. Li and Li (1990) reported 2 species of the genus *Dasyrphus* from Gansu Province, including one new record species to China. He (1991) described 2 new species from Gansu Province and Xinjiang, and described another new species from Jiangsu Province in 1992. Sun and He (1995) reported two new record species to China from Xinjiang. Yang and Cheng (1998) listed 10 species of China in "Flies of China".

In the present paper two new species of *Dasyrphus* are described from Qinling Mountains, Shaanxi Province, China. Type specimens are deposited in Bio resources Key Laboratory of Shaanxi Province, Shaanxi University of Technology, Shaanxi Province, China. So far 13 species of *Dasyrphus* have been recorded from China. A key to Chinese species is provided.

Dasyrphus angustantennus sp. nov. (Figs 1-5)

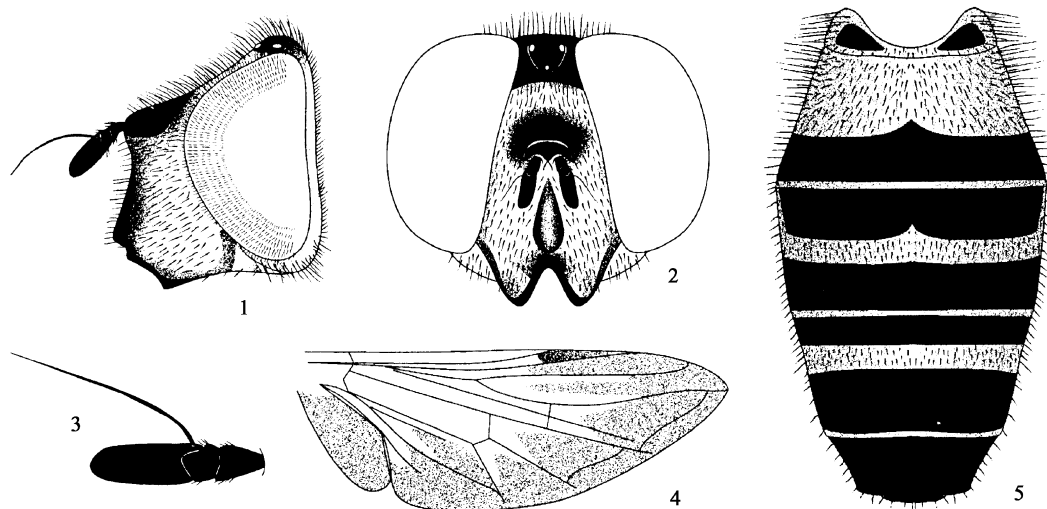
Female. Eye densely with dark brown hairs. Vertex black clothed with light-colored long hairs, the posterior portion yellow pollinose. Ocellar triangle slightly convex. Occiput covered densely with pale pollen and light-colored hairs. Frons black with long light hairs and dark brown hairs at anterior portion, middle portion with a grayish yellow transverse pollinose band reaching down to the face along edges of eyes laterally. Frontal prominence bare, shining black. Face grayish yellow densely with grayish yellow

pollen and light hairs; lateral stripes on the face below eyes dark brown; the broad black facial median stripe extending up to the basement of frontal prominence and down to dark brown margin of mouth. Facial tubercle asymmetric in lateral view, with lower end blunt rounded. Cheeks grayish yellow, covered with light long hairs. Antennae black, with first flagellomere narrower and longer, about 2.4 times as long as broad, longer than the basal two segments together, the apical end blunt rounded. Arista black, with basal half thickened.

Mesonotum shining black, dark yellow laterally behind scutal suture, covered with pollen and brownish yellow soft long hairs, two dark gray median stripes on the middle of anterior portion extending posteriorly almost to end of mesonotum. Scutellum dull yellow, with brownish yellow long hairs. Subscutellar fringe brownish yellow, long and dense. Mesopleura black with gray yellow pollen and long soft hairs. The upper and lower hairy patches on katepisternum joined broadly posteriorly. Legs mostly black with the apical portion of femur brownish yellow, with no distinct limits between them, fore and middle tibiae brownish yellow, hind tibia light brown basally, fore and the middle tarsi dark brown. Legs nearly entirely clothed with brown yellow hairs, only the outer surface of hind tibia with black hairs. Wing transparent with stigma dark brown; wing membrane with microtrichiae, the following areas bare: C cell; 1st basal cell; 2nd basal cell; the basal part of Sc cell and marginal cell, axillary cell and alula; the basal part, anterior margin and posterior margin of submarginal cell, subapical cell,

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Figs 1-5. *Dasyrphus angustantennus* sp. nov., female. 1. Head, lateral. 2. Head, frontal. 3. Antenna. 4. Wing (right). 5. Abdomen, dorsal.

discal cell, Cu1 cell, and 3rd basal cell. Halter light brown yellow.

Abdomen almost oval, unmarginated, with lateral margins rolled down. Tergites shining black brown, covered with brownish yellow hairs, and hairs longer laterally. Tergite 1 light yellow, with a pair of black brown spots laterally. Tergite 2 with basal 2/3 pale yellow, with posterior margin concave triangularly medially, the hind margin of the tergite with narrow yellow band. Tergite 3 with narrower yellow margin posteriorly, a yellow band nearly on the middle portion with anterior margin triangularly convex medially, not approaching to anterior margin of tergite. Tergite 4 with yellow band on basal half and narrow yellow posterior margin.

Length of body 9 mm, length of wing 7 mm.

Male: unknown.

Holotype ♀, 3 Sep. 2002, Red River Valley (1 000 m; 34° 04' N, 107° 45' E), Mei County, Shaanxi Province, China.

This species is different from others in the shape of antennae and color pattern of abdomen.

Distribution. China (Shaanxi: Mei County).

Etymology. The specific epithet is derived from the Latin *angustantennus* (narrow antenna), referring to antenna with segment 3 narrower and longer.

Discussion. The new species is consistent with generic characters of *Dasyrphus* on the whole, except for the first flagellomere narrower and longer, about 2.4 times in length as its breadth, and abdomen with transverse bands.

Dasyrphus taibaiensis sp. nov. (Figs. 6-8)

Female. Eye with brown yellow hairs densely. Vertex black, clothed with golden pollen and black hairs, ocellar triangle slightly convex. Occiput covered densely with golden yellow pollen and light-colored hairs. Frons orange yellow with the basal portion dark brown and extending to the frontal prominence medially; frons densely dusted golden yellow laterally, sparsely with black hairs extending downwards to the sides of the frontal prominence laterally; with frontal prominence bright black dorsally. Face orange yellow with brownish yellow hairs, dusted densely golden laterally, with median area broadly bare. Facial tubercle broad and obtuse rounded, asymmetry seen laterally. Epistoma slightly dark. Cheeks yellow, with yellow pollen and hairs. Antennae black brown, 1st flagellomere oval, longer than the basal two segments together, the dorsal edge straight, the ventral arc-shaped, the apex obtuse rounded. Arista black brown, covered with pubescent basally.

Mesonotum bronze black, slightly shining, dusted yellow laterally, with brown hairs and hairs on the lateral margins longer, reddish brown. Scutellum dark yellow, covered with orange yellow hairs. Subscutellar fringe densely brown yellow. Mesopleura bronze black, covered slightly with gray yellow pollen but forming distinctly pollinose spots on the posterior portions of anepisterna, the posterodorsal portions of anepimera and the dorsal portions of katapimera. The upper and lower hair patches on katapisterna separated broadly, joined narrowly posteriorly. Metasternum bare. Hind coxa without a tuft of hairs at posterovertral apical angle. Legs orange yellow mostly covered with hairs in the same color, with coxae, trochanters,

basal 1/3 of anterior femur, middle femur, and near basal 3/4 of hind femur black. Wing transparent, with stigma black brown, wing membrane with microtrichiae entirely. Halter light yellow.

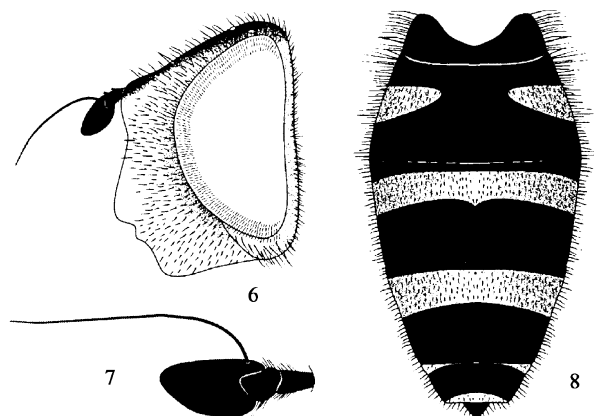
Abdomen elongate ovally, slightly margined, convex dorsally slightly, shining black. The basal half of tergite 2 with approximate triangular yellow spots laterally, its frontal edge parallel with the anterior margin of the tergite, the inner ends sharp pointed, separated broadly from each other, the outer end extended to the sides of the tergite. Tergites 3 and 4 each with a yellow band on the basal part, nearly approaching to the anterior margin of the tergite medially, length of the band less than a half as the length of the corresponding tergite, the hind edge of yellow band on the tergite 3 with a slight triangular prominence medially. Tergite 5 black with anterior lateral corners and hind margin orange yellow. Tergites of abdomen covered with orange yellow hairs, the hind half of the tergites 2 to 5 intermixed with black hairs.

Length of body: 10.5–13.0 mm; Length of wing: 10–11 mm.

Holotype ♀, 17 July 2002, Taibai Mountain (2 800 m; 34° 04' N, 107° 45' E), Meixian County, Shaanxi Province. Paratypes 2 ♀ ♀, 17 July 2002, Taibai Mountain (2 800 m; 34° 04' N, 107° 45' E), Mei County, Shaanxi Province, China.

The species is different from other species of the genus in the following characters: face yellow, without dark brown median stripe; abdominal tergites 3 and 4 each with a yellow band.

Distribution. China (Shaanxi: Mei County).



Figs 6–8. *Dasyrphus taibaiensis* sp. nov., female. 6. Head lateral view. 7. Antenna. 8. Abdomen, dorsal view.

Etymology. The specific epithet is derived from the type locality Taibai Mountain.

Key to species

- 1 (2) Antenna narrowly elongate, first flagellomere about 2.4 times width in length. Tergite 2 with broad yellow transverse band basally *D. angustantennus* **sp. nov.**
- 2 (1) Antenna nearly oval, first flagellomere about 1.7 times width in length. Tergite 2 with yellow spots or band divided medially
- 3 (4) Face yellow, without dark brown median stripe. Tergites 3 and 4 with yellow bands respectively, bands with the same width and anterior margins approaching nearly to anterior margin of tergites *D. taibaiensis* **sp. nov.**
- 4 (3) Face yellow or reddish yellow with distinct black or dark brown median stripe. Tergites 3 and 4 each with a pair of yellow spots, either yellow bands extending to anterior margin of tergites medially, or yellow band on tergite 3 broader than that on tergite 4
- 5 (6) Face with a pair of dark brown submedian stripes. Body large; tergites 2 to 4 with two pairs of yellow spots respectively, their outer end extending to lateral margins of tergites *D. bilineatus* (**Matsumura**)
- 6 (5) Face only with dark brown median stripe
- 7 (8) Mesonotum with two pairs of gray yellow pollinose stripes. Legs light yellow to brown yellow. Abdomen black, convex dorsally, with yellow spots and bands not reaching lateral margin of tergite *D. egger* (**Schiner**)
- 8 (7) Mesonotum with a pair of gray yellow pollinose stripes, sometimes stripes indistinct. Legs at least black partially
- 9 (16) Tergites 3 and 4 with yellow bands on the basal half of tergites, otherwise frons at least reddish yellow partially
- 10 (11) Yellow band on tergite 3 distinctly broader than that on tergite 4 *D. trinctus* (**Falken**)
- 11 (10) Yellow bands on tergites 3 and 4 with subequal width
- 12 (13) Frons at least reddish yellow partially *D. albostratus* (**Falken**)
- 13 (12) Frons black
- 14 (15) Facial black median stripe almost extended up to the basal portion of antennal prominence. Tergite 2 with triangular yellow spots, anterior margin parallel to anterior margin of tergite *D. brunettii* (**Herve Bazin**)
- 15 (14) Facial black median stripe at most extended up to the middle of the distance between antennal prominence and facial tubercle. Tergite 2 with a pair of yellow spots in the form of V inversely, the inner ends nearly rounded, separated broadly from each other *D. yangi* **He et Chu**
- 16 (9) Tergites 3 and 4 with a pair of yellow spots on the basal half of tergites respectively, and frons black
- 17 (20) Yellow spots on tergites extended to the lateral margin. Scutellum covered with yellow hairs mostly
- 18 (19) Face with black hairs, intermixed with some yellow hairs. Yellow bands on tergites 3 and 4 narrowly elongate, crescentic. Antennae reddish yellow *D. venustus* (**Meigen**)
- 19 (18) Face with yellow hairs entirely. Antennae dull brown to black. Yellow spots on tergites 3 and 4 oblique, with outer margin straight and inner ends extended forward. Spots on tergite 4 with the inner ends joined at anterior margin of tergite medially *D. lituiformis* **He**
- 20 (17) Yellow spots on tergites not extended to lateral margin. Scutellum covered with black hairs
- 21 (22) Yellow spots on tergites crescentic, with posterior margin straight, nearly oblique, the inner and outer ends of spots similar *D. lunulatus* (**Meigen**)
- 22 (21) Tergites 3 and 4 with yellow spots G or E shaped. Yellow spots on tergite 2 dumbbell shaped

- 23 (24) Abdominal dorsum with four pairs of yellow spots, the second and third pairs of spots G shaped, the fourth pair semicircular
..... D. postclaviger (**Stys et Moucha**)
- 24 (23) Abdominal dorsum with three pairs of yellow spots, the second and the third pairs of spots L shaped D. licinus **He**

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中国毛食蚜蝇属研究及二新种记述（双翅目，食蚜蝇科）

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摘 要 2001~ 2003 年作者对秦巴山区食蚜蝇科昆虫调查,发现中国毛食蚜蝇属 *Dasysyrphus* 2 新种, 模式标本保存于陕西理工学院生物系陕西省资源生物重点实验室动植物标本馆。文中给出中国已知种的检索表。

狭角毛食蚜蝇, 新种 *Dasysyrphus angustatantennus* sp. nov. (图 1~ 5)

复眼密被暗褐色毛。头顶黑色, 被浅色长毛, 后半部被黄粉。额黑色, 被浅色长毛, 前端被黑褐色毛, 额突光亮, 中部被灰黄色粉带, 并沿复眼边缘向下延伸到颜面部。颜面灰黄色, 密被灰黄色粉及浅色毛, 颜面黑褐色中条宽, 伸达触角基部和口缘, 颜面复眼下方具黑褐色条纹, 口缘黑褐色。触角黑色, 第 3 节狭条状, 长为高的 2-4 倍, 顶端钝圆, 触角芒黑色, 基半部较粗, 端半部较细。

中胸背板黑色, 具光泽, 两侧在横沟之后暗黄色, 覆粉被, 前部中央具 2 条黑灰色条纹, 伸达背板近端部, 背板被棕黄色长软毛。小盾片暗黄色, 被棕黄色长毛, 侧板黑色, 被灰黄色粉及长软毛。足主要黑色, 股节端部棕黄色, 与基部黑色区域无明显界限, 前、中足胫节棕黄色, 后足胫节基半部浅棕色, 前、中足跗节暗褐色, 足几乎全部被棕黄色毛, 仅后足胫节外侧具黑毛。翅透明, 翅痣黑褐色, 翅面具微毛, 以下区域裸: C 室, Sc 室基部, R₁ 室基半部, R₃ 室基部及其前后缘, 上基室, R₅ 室基部及其前后缘, 下基室,

M₂ 端室及 Cu₁ 室基部及前后缘, 1A 室 (近端部中域除外), 2A 室基部。

腹部近卵形, 无边。背板黑褐色, 具光泽, 被棕黄色毛, 第 1 背板浅黄色, 两侧具 1 黑褐色斑, 第 2 背板基部近 2/3 浅黄色, 后缘中央三角状凹入, 背板后缘具狭的浅黄色带, 第 3 背板具浅黄色带, 其前缘中央三角形突出, 后缘具狭黄带, 第 4 背板前半部具黄带, 后缘具较狭的黄边。腹部腹面暗褐色, 具浅色斑, 被浅色毛。

体长 9 mm, 翅长 7 mm。

雄性未知。

正模♀, 陕西眉县 (红河谷) (34°04' N, 107°45' E), 1 000 m, 2002-09-03。

新种以触角形状和腹部色斑而明显区别于本属的其它种类。

太白毛食蚜蝇, 新种 *Dasysyrphus taibaiensis* sp. nov. (图 6~ 8)

复眼密被棕褐色毛。头顶黑色, 被金黄色粉及黑毛。额橙黄色, 基部近额角处暗褐色并向前伸达额突前缘, 额突黑亮。额两侧密被金黄色粉, 被稀疏黑毛, 两侧向下分布到颜面两侧。颜面橙黄色, 密被金黄色粉, 中部具宽的裸区, 颜面被棕黄色毛, 面中突宽而钝圆, 触角黑褐色, 第 3 节卵形, 长与高之比为 1.6:1.0, 芒黑褐色。

中胸背板铜黑色, 略具光泽, 被棕色毛, 两侧毛较长, 红棕色, 侧缘被黄粉。小盾片暗黄色, 被橙黄色毛, 中胸上前侧片后端, 腹侧片后端背部, 上后侧片及下后侧片背部覆灰黄色粉斑, 足主要橙黄色, 被同色毛, 基节, 转节, 前、中足股节基部近 1/ 3, 后足股节基部 3/ 4 黑色。

腹部长卵形, 具弱边, 背面略隆起, 黑色, 具光泽。第 2 背板前半部具近三角形黄色侧斑, 其前缘与背板前缘平行, 内端尖, 宽地分离, 外端达背板的侧缘。第 3~ 4 背板前部具黄带, 中央靠近背板前缘, 第 3 背板黄带后缘中央三角状突出, 第 5 背板黑色, 两侧前角及后缘橙黄色。背板被毛橙

关键词 食蚜蝇科, 毛食蚜蝇属, 新种, 中国.

中图分类号 Q969. 452. 7

黄色, 第 2~ 5 背板后半部夹有黑色毛。腹部腹面黑色, 具棕黄色带。

体长 10. 5~ 13. 0 mm, 翅长 10~ 11 mm。

雄性未知。

正模♀, 陕西眉县 (太白山) (34° 04' N, 107° 45' E, 2 800 m), 2002- 07- 17; 副模 2♀ ♀, 2002- 07- 17, 同正模。

新种颜面黄色, 缺黑褐色中条纹, 腹部第 3~ 4 背板具宽度相同的黄带, 黄带中央不向前伸达背板的前缘。易与本属其它种类区别。